WE CLAIM

1. A peripheral device for use with a computer system comprising:

a housing adapted to fit within a user's palm and slide over a medium;

an optical sensor having plural sensing elements and producing image signals;

a lens for imaging the medium onto the sensor;

circuitry coupled to the sensor and disposed within the housing for processing the signals from the sensor and producing corresponding output data; and

transfer means for relaying the output data from the peripheral device to the computer system;

10   wherein said sensor is useful in acquiring optically-encoded multi-bit information from said medium for use by said computer system.

2. The device of claim 1 in which the transfer means is a cable.

15   3. The device of claim 1 in which the transfer means is a wireless link.

4. The device of claim 1 in which the circuitry analyzes the image signals and produces multi-bit information corresponding thereto.

20   5. The device of claim 1 in which the circuitry comprises a decoder for discerning steganographically-encoded information represented in said image signals.

6. The device of claim 1 in which the optical sensor comprises a 1D array of sensor elements.

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7. The device of claim 1 in which the optical sensor comprises a 2D array of sensor elements.

8. The device of claim 1 in which said circuitry is integrated on a common substrate with said sensing elements.

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9. The method of claim 1 in which the optically encoded information comprises a plural-bit identifier.

5   10. A method of interacting with printed material using a peripheral device, the peripheral device providing positional data to an associated computer and including an optical sensing system comprising plural optical sensing elements, the method comprising:

positioning the device over the printed material;

10   generating optical sensor data from said optical sensing system, said data corresponding to a machine-readable indicia formed on the printed material;

processing said optical sensor data to produce plural-bit data corresponding to said machine-readable indicia; and

providing said plural-bit data to said computer.

15   11. The method of claim 10 which includes performing a steganographic decoding process on the optical sensor data to obtain said plural-bit data.